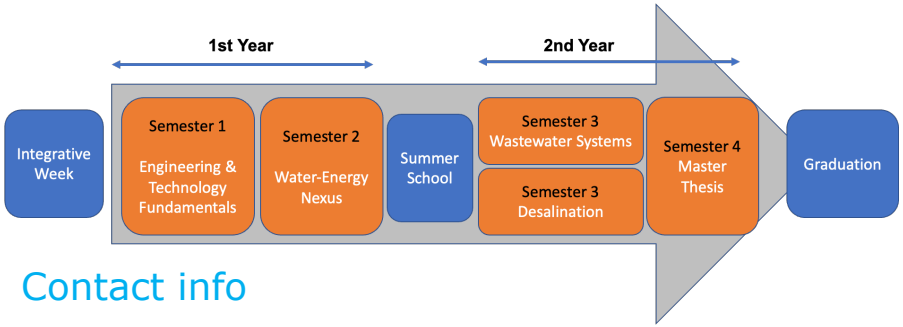
Why NICEST? The NICEST scheme offers a unique programme of education in Water Systems Technologies. It addresses the major developing areas of the subject giving the prospective student state of the art knowledge and opportunities to specialise in the major areas of the subject, Desalination and Wastewater Control Systems. These are key areas of technology and infrastructure in a developing world that will be required to deal with the threats of climate change and help with conflict resolution based on resources. The Master's degree will fulfil the demand for well-qualified personnel required with an enhanced capability for solving many of the water supply problems foreseen in the next years.



Contact info

Prof. R. Vilanova
de Ingenieria de Procesos
Univ. de Las Palmas de Gran Canaria
email: josemiguel.veza@ulpgc.es
Web:

NICEST

Next generation Industrial Control Engineering
for Sustainable water system Treatment

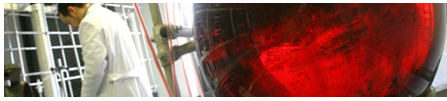
Joint European Master

Next generation Industrial Control Engineering for Sustainable watersystem Treatment

http://www.nicest-eu.org

NICEST

Next generation Industrial Control Engineering for Sustainable water system Treatment



[Prospective master programme] The new envisaged programme has as its main goal the education of professionals able to take decisions considering the operational, technological and social aspects in wastewater and desalination systems engineering from an integrated engineering perspective, by covering technological, engineering and scientific related subjects. The duration of the programme is two-years by full-time study (120 ECTS). Intended structure is:

- Common first year where the basics of Industrial Control, Environmental and environmental management, biological processes are covered.
- Elective second year according to the expertise. Two streams are offered: wastewater and desalination.
- Master project according to the expertise but including co-supervision with an external advisor that complements with needed engineering and technological aspects.

1st Year / Courses overview

SEMESTER 1: ENGINEERING & TECHNOLOGY FUNDAMENTALS

- Sustainability and Green Engineering (6 ECTS)
- Data Analysis, Optimization and Decision Making (6 ECTS)
- Bioprocess Engineering (6 ECTS)
- Industrial Data Analysis and Visualization (4 ECTS)
- Industrial Communications (4 ECTS)
- Industrial Cibersecurity (4 ECTS)

SEMESTER 2: WATER-ENERGY NEXUS

- Introduction to Water Energy nexus (4 ECTS)
- Energy and nutrient recovery (5 ECTS)
- Wastewater treatment technologies (4 ECTS)
- Biorefinery Development (3 ECTS)
- Sustainable energy systems (3 ECTS)
- Water recovery and reuse (5 ECTS)
- Water-formed scale deposition and mitigation (3 ECTS)
- Greek Language and Culture (3 ECTS)

2nd Year / Courses overview

SEMESTER 3: WASTEWATER SYSTEMS STRAND

- Modelling, Identification and Simulation of WWTP (6 ECTS)
- Software sensors (Big Data) for WWTP (6 ECTS)
- Control and operation of WWTP (6 ECTS)
- SCADA Systems for WWTP (6 ECTS)
- Ethics and academic integrity (3 ECTS)
- Entrepreneurship & Innovation Management (3 ECTS)

SEMESTER 3: DESALINATION SYSTEMS STRAND

- Water desalination systems: design, software and standardization of data (6 ECTS)
- Pre- and post-treatments for desalination processes (3 ECTS)
- Energy Efficiency in desalination (6 ECTS)
- Desalination with Renewable Energies (6 ECTS)
- Control and Intelligent Automation of Water Desalination Processes (3 ECTS)
- Environmental Impact of Desalination Technologies (6 ECTS)

SEMESTER 4: MASTER THESIS

UAB Universitat Autònoma de Barcelona · universidad de León · UNIVERSIDAD DE LAS PALMAS DE GRAN CANARIA · UNIVERSITAS GALATIENSIS · UNIVERSITY OF THESSALY · CERTH CENTRE FOR RESEARCH & TECHNOLOGY HELLAS · INTERNATIONAL HELLENIC UNIVERSITY · UNIVERSITATEA DIN CRAIOVA · UNIVERSITÀ DI PAVIA · UNIVERSITÀ DEGLI STUDI DI BRESCIA